

CONSTRUCTION OF A BOWL BLOCK

MOLD FROM PLASTER MODEL

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JULY, 1977

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When the model is approved for blocking the first step in the construction is to make a set that will establish the rim mold size and shape. The rim model is placed on a plaster slab with thickness of approximately 1-1/2". A line is scribed around the outside rim model. A second line is scribed around the inside of the rim model. These lines are located approximately 1-3/4" away from the model to establish the mold dimensions. The slab is then cut along these lines. Allowance must be made where natchettes will be located for regi tration of the rim and body at topping off (photo #1).

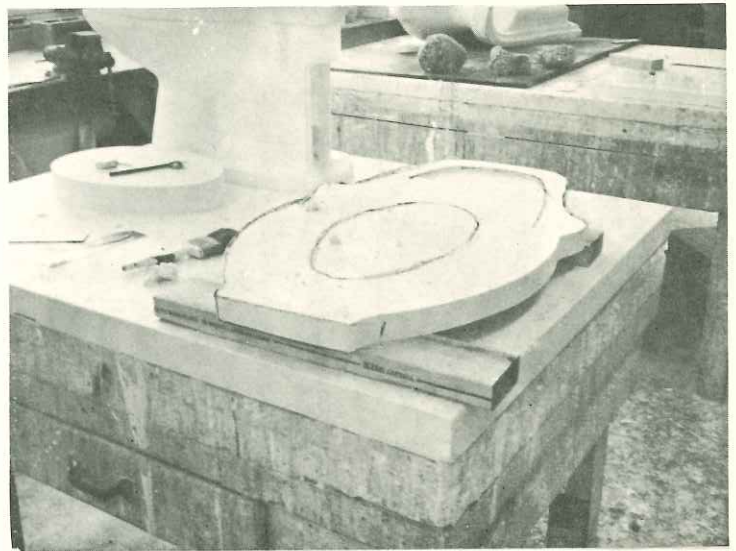


Photo #1

The model should be sealed with Partex Mold Separator (soap). The separator will keep the plaster block mold during pouring operations from adhering to the model. At least two coats of separator will be needed to accomplish this. This is done by applying separator with a sponge and then removing excess with another sponge. The first coat will be absorbed by the model. A second coat should leave a slight shine. If model feels dry after a second coat, additional separator should be applied.

The rim model is placed on the slab and the parting line is laid out. This is done with the use of a square and straight-edge. The final line is drawn around with a height gage to assure a straight parting line. The rim inside parting line is established in the same manner (photo #2).

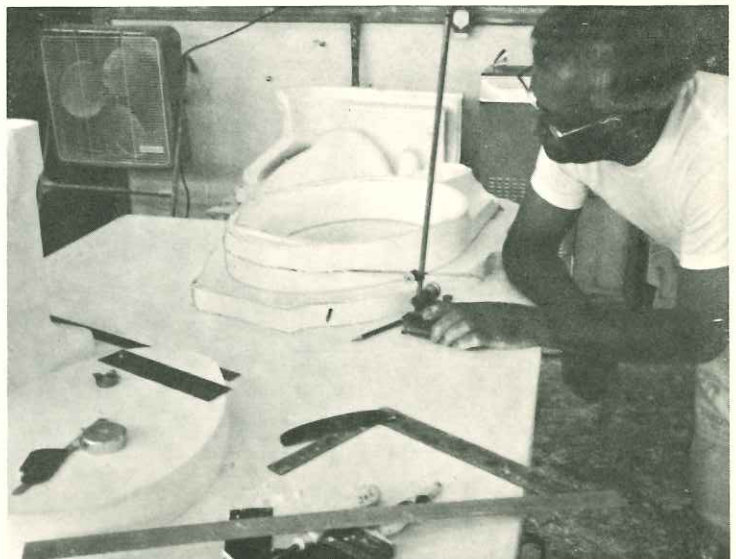


Photo #2

A second set is now needed to establish the mold parting line. This set is poured around the model which is in place on top of the first slab. Care must be taken when scraping this set to the parting line that it is right on the line. This will assure that the mold will come apart without chipping. The inner rim parting line set is constructed in the same manner (photo #3).

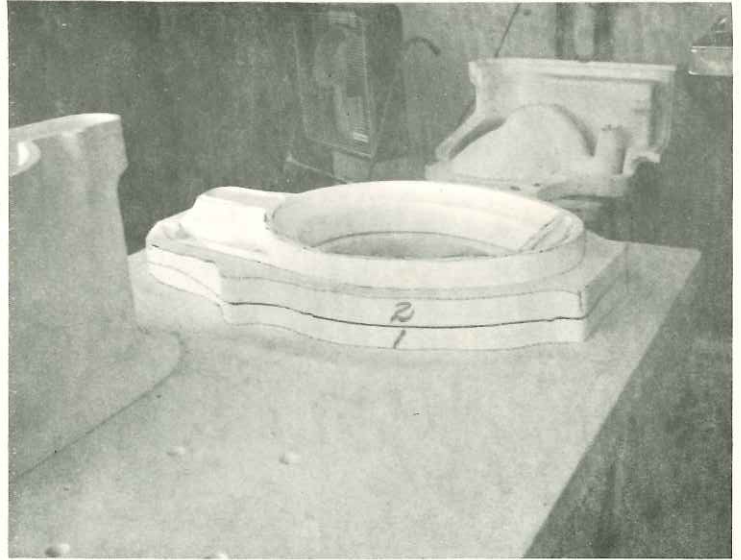


Photo #3

A third set is poured on top of the first two. This set will establish the rim and body stick-up line. Scrape this set flush with the top of the rim stick-up edge. Be careful not to scrape any of the model when working this set. (Photo #4) These sets with the rim in place can now be set aside.



Photo #4

A set is now needed to establish the size of the bottom core and setter. Here again a slab is needed about 1-1/2" thick. The bowl model is set on this slab and a line scribed around the foot of the model. This line will be away from the foot 1-1/2" to 1-3/4". When the slab is cut to the desired size and finished the model is once again placed on it. Another line is scribed around the foot. This one is 3/8" to 7/16" away from the outside of the foot (photo #5).



Photo #5

Another slab is poured on the first. Natchettes should be cut into the first slab before pouring the second to line the two up when complete. This second slab will be 3/8" to 7/16" thick. Remove the second from the first slab and scrape to the line. Draw should be given to the top set about 1/16" to 1/8". When the second set is complete place it on the first. The natchettes will locate it properly. With small nails, nail these two sets together. The set to form the outside of the bottom core and setter is now complete (photo #6).

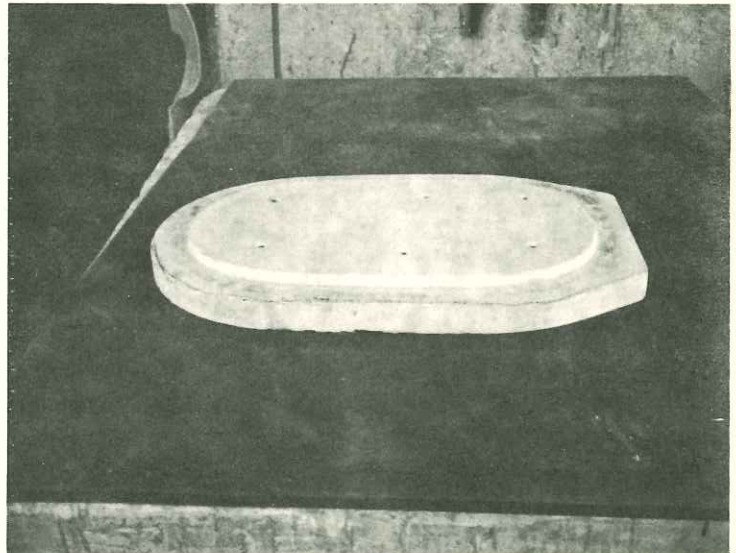


Photo #6

The bowl model is next placed on the rim model. Care should be taken to assure that the rim and bowl models are lined up perfectly. Small brads are driven into set #3 of the rim about 1" away from the model. Mud is set up around them and plaster poured over them. This will hold the two models in place (photo #7).

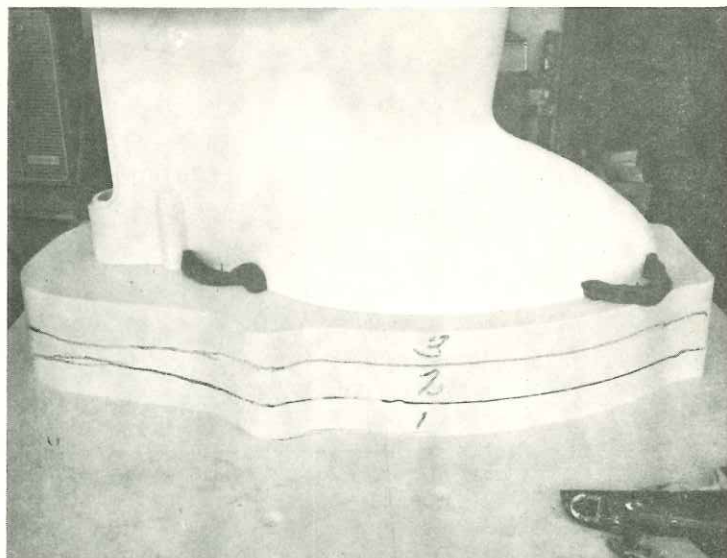


Photo #7

The model with sets in place are placed in such a manner as to allow access to the hole cut in the center of set #1. Ultracal is then put into this hole and against the inside of the model. This will hold the bowl body and rim model in their correct registration during the remainder of the blocking procedure (photo #8).

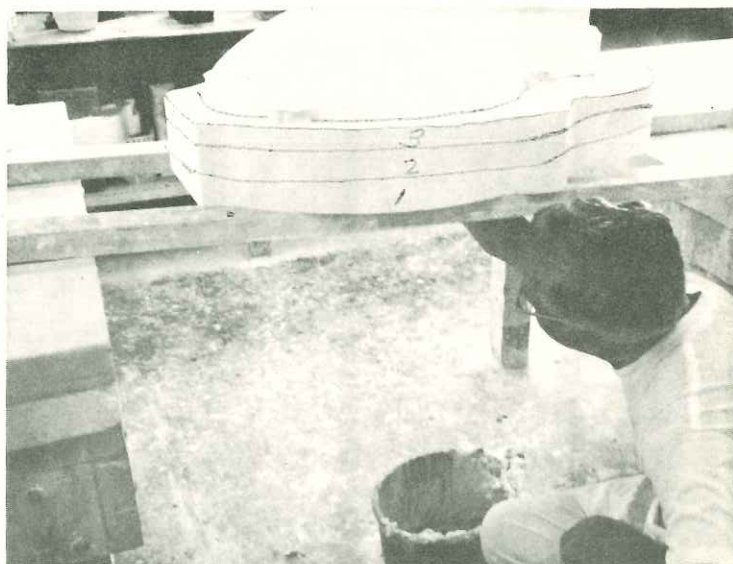


Photo #8

When the ultracal which holds the body and rim together is set the plaster which was poured over the brads can be removed. Natchettes which will be in the body side molds are located at this time. The bottom set is put in place (photo #9).

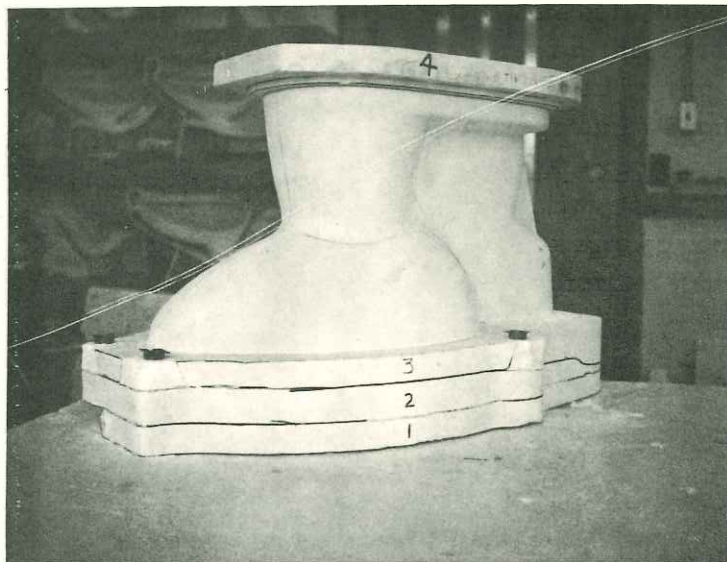


Photo #9

The set which will locate the split line of the two bodies is next to be made. A line down the very center of the body is drawn and a plaster set is poured against the model. This set will be cut to the thickness that the body side molds will become. The same is also done to the back of the body, thus establishing the parting line of both body side molds (photo #10).

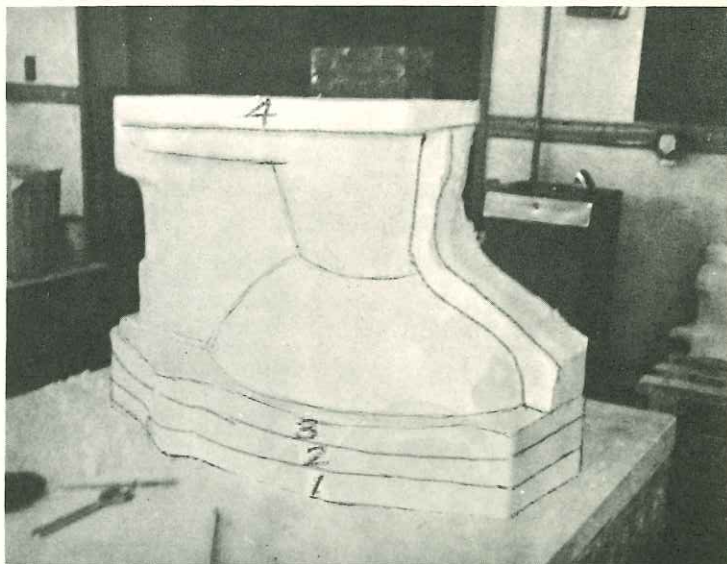


Photo #10

With all sets held securely, a layer of mud about 1/2" thick is laid on the model. This is to protect the model while blocking the first body mold (photo #11). Note undercut of plaster sets to tie together all plaster.



Photo #11

Sheet lead is then strapped around the rim sets and ultracal is poured over the 1/2" layer of mud. This ultracal must come in contact with the front and rear parting line sets and also the rim and bottom core sets (photo #12).



Photo #12

This set is then scraped rough to ease the handling. It is also the protection for the model when the first body side is blocked (photo #13).



Photo #13

The whole mass is then clamped securely and turned over on the side which has the ultracal. This is done by putting a 2 x 4 across the top and bottom running front to back. This applies even pressure to all parts. When the clamping is complete and the piece is on its side, the natchettes are located in the body side to line up the top core. These same natchettes will also line up the rim when topped off. The first body side is blocked (photo #14). The mold with all sets is rolled over so that it sets on the rim. The ultracal body side set is removed along with both the front and back parting line sets. The layer of mud is cleaned off in preparation to block the second body side.

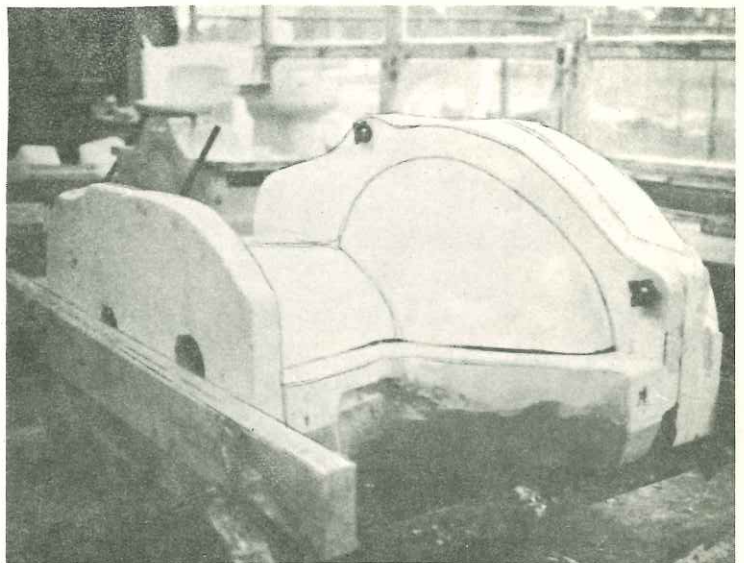


Photo #14

With both body sides blocked the mold is set on the foot. The next mold part to be blocked is the top half rim mold. The first and second rim sets are removed. This exposes the set which is the rim parting line. Plaster at the body side is cut away to expose the body side mold natchettes (photo #15).



Photo #15

Before blocking the top half of the rim provisions must be made for extension of the rim stick-up edge into the body molds because of cast ware shrinkage in the mold before top off. The normal allowance is $1/8$ ". This is accomplished with the use of a metal insert. The insert is placed into the body side natchette and the rim natchette is placed into it. (Photo #16)



Photo #16

With the inserts, natchettes, pouring tube, and funnel in place, the top half of rim mold is ready for blocking.
(Photo #17)



Photo #17

The mold is coddled up with sheet lead and the top half of rim is blocked
(photo #18).



Photo #18

When the top half of the rim mold is set up to where it can be removed, the top core can be blocked. Set the rim mold aside with the model still in it. The top edge of the body sides are exposed when the rim is removed. Sheet lead is strapped to the body sides to hold the plaster which will become the top core. Natchettes are located in the body sides. Pouring tubes and funnels are located. As the plaster of the top core sets up, this core mold is hollowed out by removing plaster to give more uniform mold thickness and to decrease mold weight. (Photo #19)



Photo #19

When the top core is complete the mold is turned over on the top core. The setter is next to block. The bottom set is removed. This exposes the bottom of the model and bottom edge of the body sides. Sets will be poured into the bottom cavity to block out the underside of the bowl model. Those areas of the model or ware that should not be supported by the setter will be covered by these plaster sets. When these sets are complete the setter is blocked.

When the setter is complete it is removed from the model and body sides and set aside. All other sets are removed from the bottom. When this is done the bottom core is ready to be blocked. Locate the drain tubes and coddle the mold up with sheet lead the same as was done for the setter and pour the bottom core (photo #20).



Photo #20

Next get the rim mold with model and prepare to block the bottom half of rim mold. First remove the 1/8" inserts which are on the natchettes. Remove the third set which was on the mold. This will expose the rim stand off legs. Scrape these legs around the brass natchettes until they are fully exposed and the opposite natchettes seat on them completely. Coddle the mold with sheet lead; locate the drain pin and pour the bottom half of rim (photo #21).

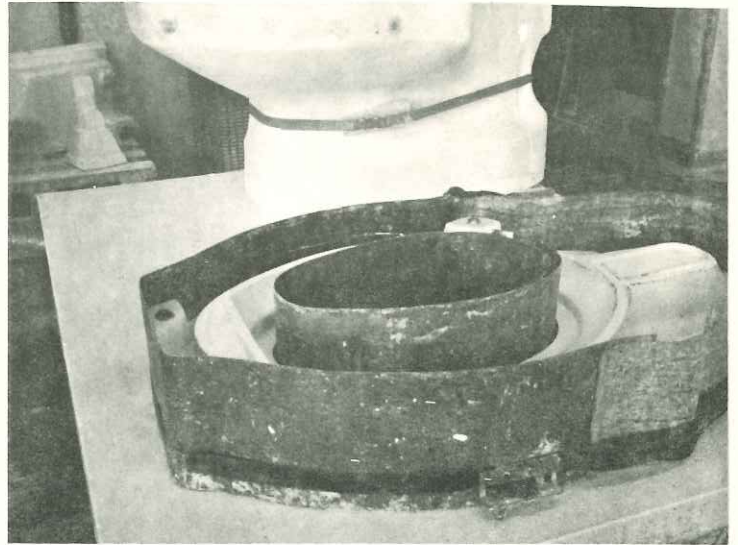


Photo #21

The mold is now complete. The next step is to take the mold apart. First remove the bottom core and put the setter in its place. Roll the mold over and remove the top core. The body sides can now be removed. Set the bowl model aside. The rim can be taken apart and model removed and set aside with the bowl model. All mold parts can now be cleaned. Special care should be taken to assure that the seams are kept sharp.

Band the finished mold up and support it to avoid warpage. The complete mold can now be put into the mold dryer.

